CLAIMS

What is claimed is:

1.   A method for integrating time division duplex (TDD) and frequency division duplex (FDD) in wireless communication systems, the method comprising the steps of:

receiving   radio access bearer (RAB) requests along with a plurality of parameters regarding the request;

estimating a degree of symmetry in uplink (UL) and downlink (DL) connections required to support communication associated with the RAB requests;

selecting either a TDD or FDD connection based on the estimated symmetry of the UL and DL connections.

2.   The method of claim 1 wherein TDD connection is selected for RAB requests having data rates above a predetermined threshold.

3.   The method of claim 1 wherein FDD connection is selected for RAB requests associated with voice applications.

4.   The method of claim 1 further comprising:

evaluating a symmetry status of the UL and DL connections periodically once an initial connection has been established in response to a RAB request; and

switching between TDD and FDD modes based on said symmetry status.

5.   The method of claim 1 wherein all RAB requests are processed through a FDD RNC.

6.   The method of claim 5 wherein only the FDD RNC is connected to a core network through an Iu interface, and the TDD RNC is indirectly connected to the core network through the FDD RNC.

7.   The method of claim 6 wherein the FDD RNC performs all call connections and disconnections.

8.   A system for integrating TDD and FDD in a communication system, the system comprising:

a core network (CN);

a time division duplex radio network controller (TDD RNC);

a frequency division duplex radio network controller (FDD RNC); and,

a TDD-FDD selector for receiving a RAB request and estimating symmetry status of uplink (UL) and downlink (DL) connections that is required to support the RAB assignment request, and making a decision to assign radio resources in either TDD mode or FDD mode based on the estimated symmetry status.

9.   The system of claim 8 wherein a TDD connection is selected for RAB requests having data rates above a predetermined threshold.

10.   The system of claim 8 wherein a FDD connection is selected for RAB requests associated with voice applications.

11.   The system of claim 8 wherein the TDD RNC, the FDD RNC, and the TDD-FDD selector are integrated into an integrated TDD/FDD RNC.

12.   The system of claim 8 wherein the FDD RNC includes a TDD serving radio network controller (S-RNC) and is configured to support TDD Iur protocols.

13.   The system of claim 12 wherein only the CN and the FDD RNC are connected via an Iu interface and RAB requests are processed through the FDD RNC.